Claims:

1   1.   A method of operating a wireless transmitter to wirelessly transmit a data

2   packet on a variable rate channel to a receiver, the method comprising:

3   transmitting a first transmission block portion and a second transmission block

4   portion to the receiver in a first transmission at a first data transmission rate; and

5   when the receiver does not successfully decode the first transmission in a first

6   decoding, transmitting a second transmission to the receiver at a second data transmission

7   rate different from the first data transmission rate, wherein the second transmission includes

8   the first transmission block portion.

1   2.   The method of claim 1, further comprising, when the receiver does not

2   successfully decode a combination of the first transmission and the second transmission in a

3   second decoding, transmitting a third transmission to the receiver at the second data

4   transmission rate, wherein the third transmission includes the second transmission block

5   portion.

1   3.   The method of claim 2, further comprising, when the receiver does not

2   successfully decode a combination of the first transmission, the second transmission, and

3   the third transmission in a third decoding, transmitting a fourth transmission to the receiver

4   at a third data transmission rate that is different from both the first data transmission rate

5   and the second data transmission rate, wherein the fourth transmission includes the first

6   transmission block portion.

1   4.   The method of claim 3, further comprising, when the receiver does not

2   successfully decode a combination of the first transmission, the second transmission, the

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3   third transmission, and the fourth transmission in a fourth decoding, transmitting a fifth

4   transmission to the receiver at the third data transmission rate, wherein the fifth transmission

5   includes the second transmission block.

1   5.   The method of claim 4, wherein:

2   the second data transmission rate is less than the first data transmission rate; and

3   the third data transmission rate is less than the second data transmission rate.

1   6.   The method of claim 1, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   7.   The method of claim 1, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   8.   A method of operating a wireless receiver to wirelessly receive a data packet

2   on a variable rate channel from a transmitter, the method comprising:

3   receiving a first transmission from the transmitter at a first data transmission rate,

4   wherein the first transmission includes a first transmission block portion and a second

5   transmission block portion;

6   attempting to decode the first transmission in a first decoding; and

7   when the first decoding is not successful, requesting and receiving a second

8   transmission from the transmitter at a second data transmission rate different from the first

9   data transmission rate, wherein the second transmission includes the first transmission block

10   portion.

1   9.   The method of claim 8, further comprising:

2   attempting to decode a combination of the first transmission and the second

3   transmission in a second decoding; and

4   when the second decoding is not successful, requesting and receiving a third

5   transmission from the transmitter at the second data transmission rate, wherein the third

6   transmission includes the second transmission block portion.

1   10.   The method of claim 9, further comprising:

2   attempting to decode a combination of the first transmission, the second

3   transmission, and the third transmission in a third decoding; and

4   when the third decoding is not successful, requesting and receiving a fourth

5   transmission from the receiver at a third data transmission rate that is different from both the

6   first data transmission rate and the second data transmission rate, wherein the fourth

7   transmission includes the first transmission block portion.

1   11.   The method of claim 10, further comprising:

2   attempting to decode a combination of the first transmission, the second

3   transmission, the third transmission, and the fourth transmission in a fourth decoding; and

4   when the fourth decoding is not successful, requesting and receiving a fifth

5   transmission from the transmitter at the third data transmission rate, wherein the fifth

6   transmission includes the second transmission block portion.

1   12.   The method of claim 9, wherein:

2   the second data transmission rate is less than the first data transmission rate; and

3   the third data transmission rate is less than the second data transmission rate.

1   13.   The method of claim 8, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   14.   The method of claim 8, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   15.   A method of operating a wireless transmitter to wirelessly transmit a data

2 packet to a receiver, the method comprising:

3   transmitting a first transmission to the receiver that includes data bits and first parity

4 bits; and

5   when the receiver does not successfully decode the first transmission in a first

6 decoding at a first decoding rate, transmitting a second transmission to the receiver that

7 includes the data bits and second parity bits, wherein the second parity bits are different

8 from the first parity bits.

1   16.   The method of claim 15, further comprising, when the receiver does not

2 successfully decode a combination of the first transmission and the second transmission in a

3 second decoding at a second decoding rate, transmitting a third transmission to the receiver,

4 wherein the third transmission includes the first parity bits.

1   17.   The method of claim 16, further comprising, when the receiver does not

2   successfully decode a combination of the first transmission and the third transmission in a

3   third decoding at the first decoding rate, transmitting a fourth transmission to the receiver,

4   wherein the fourth transmission includes the second parity bits.

1   18.   The method of claim 15, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   19.   The method of claim 15, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   20.   A method of operating a wireless receiver to wirelessly receive a data packet

2   from a transmitter, the method comprising:

3   receiving a first transmission from the receiver that includes data bits and first parity

4   bits;

5   attempting to decode the first transmission at a first decoding rate; and

6   when the first decoding is unsuccessful, requesting and receiving a second

7   transmission from the transmitter that includes the data bits and second parity bits, wherein

8   the second parity bits are different from the first parity bits.

1   21.   The method of claim 20, further comprising:

2   attempting to decode a combination of the first transmission and the second

3   transmission in a second decoding at a second decoding rate; and

4   when the second decoding is not successful, requesting and receiving a third

5   transmission from the transmitter, wherein the third transmission includes the first parity

6   bits.

1   22.   The method of claim 21, further comprising:

2   attempting to decode a combination of the first transmission and the third

3   transmission in a third decoding at the first decoding rate; and

4   when the third decoding is not successful, requesting and receiving a fourth

5   transmission from the transmitter, wherein the fourth transmission includes the second

6   parity bits.

1   23.   The method of claim 20, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   24.   The method of claim 20, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   25.   A method of operating a wireless transmitter to wirelessly transmit a data

2   packet on a variable rate channel to a receiver, the method comprising:

3   transmitting a first transmission to the receiver that includes a set of data bits coded

4   at a first coding rate; and

5   when the receiver does not successfully decode the first transmission in a first

6   decoding, transmitting a second transmission to the receiver that includes the set of data bits

7   coded at a second coding rate that is less than the first coding rate.

1   26.   The method of claim 25, further comprising, when the receiver does not

2   successfully decode the second transmission in a second decoding and does not successfully

3   decode a combination of the first transmission and the second transmission in a third

4   decoding, transmitting a third transmission to the receiver that includes the set of data bits

5   coded at a third coding rate that is less than the second coding rate.

1   27.   The method of claim 26, further comprising, when the receiver does not

2   successfully decode the third transmission in a fourth decoding and does not successfully

3   decode a combination of the first transmission, the second transmission, and the third

4   transmission in a fifth decoding, transmitting a fourth transmission to the receiver that

5   includes the set of data bits coded at a fourth coding rate that is less than the third coding

6   rate.

1   28.   The method of claim 25, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   29.   The method of claim 25, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   30.   A method of operating a wireless receiver to wirelessly receive a data packet

2   on a variable rate channel from a transmitter, the method comprising:

3   receiving a first transmission from the transmitter, wherein the first transmission

4   includes a set of data bits coded at a first coding rate;

5   attempting to decode the first transmission in a first decoding;

6   when the first decoding is not successful, requesting and receiving a second

7   transmission from the receiver that includes the set of data bits coded at a second coding

8   rate that is less than the first coding rate; and

9   attempting to decode the second transmission in a second decoding.

1   31.   The method of claim 30, further comprising, when the second decoding is

2   not successful:

3   soft combining the first transmission and the second transmission; and

4   attempting to decode a combination of the first transmission and the second

5   transmission in a third decoding.

1   32.   The method of claim 31, further comprising, when the third decoding is not

2   successful:

3   requesting and receiving a third transmission from the receiver that includes the set

4   of data bits coded at a third coding rate that is less than the second coding rate; and

5   attempting to decode the third transmission in a fourth decoding.

1   33.   The method of claim 32, further comprising, when the fourth decoding is not

2   successful:

3   soft combining the first transmission, the second transmission, and the third

4   transmission; and

5   attempting to decode a combination of the first transmission, the second

6   transmission, and the third transmission in a fifth decoding.

1   34.   The method of claim 30, wherein:

2   the transmitter is a base station; and

3   the receiver is a user terminal.

1   35.   The method of claim 30, wherein:

2   the transmitter is a user terminal; and

3   the receiver is a base station.

1   36.   A base station that acts as a transmitter to wirelessly transmit a data packet

2   on a variable rate channel to a user terminal acting as a receiver, the base station

3   comprising:

4   an antenna;

5   a Radio Frequency unit coupled to the antenna; and

6   at least one digital processor coupled to the Radio Frequency unit that executes

7   software instructions causing the base station to:

8   transmit a first transmission block portion and a second transmission block portion

9   to the receiver in a first transmission at a first data transmission rate; and

10   when the receiver does not successfully decode the first transmission in a first

11   decoding, transmit a second transmission to the receiver at a second data transmission rate

12   different from the first data transmission rate, wherein the second transmission includes the

13   first transmission block portion.

1   37   A base station that acts as a transmitter to wirelessly transmit a data packet to

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2   a user terminal acting as a receiver, the base station comprising:

3   an antenna;

4   a Radio Frequency unit coupled to the antenna; and

5   at least one digital processor coupled to the Radio Frequency unit that executes

6   software instructions causing the base station to:

7   transmit a first transmission to the receiver that includes data bits and first parity

8   bits; and

9   when the receiver does not successfully decode the first transmission in a first

10   decoding at a first decoding rate, transmit a second transmission to the receiver that includes

11   the data bits and second parity bits, wherein the second parity bits are different from the first

12   parity bits.

38.   A base station that acts as a transmitter to wirelessly transmit a data packet to

2   a user terminal acting as a receiver, the base station comprising:

3   an antenna;

4   a Radio Frequency unit coupled to the antenna; and

5   at least one digital processor coupled to the Radio Frequency unit that executes

6   software instructions causing the base station to:

7   transmit a first transmission to the receiver that includes a set of data bits coded at a

8   first coding rate; and

9   when the receiver does not successfully decode the first transmission in a first

10   decoding, transmit a second transmission to the receiver that includes the set of data bits

11   coded at a second coding rate that is less than the first coding rate.

1   39.   A user terminal that acts as a wireless receiver to wirelessly receive a data

2   packet on a variable rate channel from a base station acting as a transmitter, the user

3   terminal comprising:

4   an antenna;

5   a Radio Frequency unit coupled to the antenna; and

6   a digital processor coupled to the Radio Frequency unit that executes software

7   instructions causing the user terminal to:

8   receive a first transmission from the transmitter at a first data transmission rate,

9   wherein the first transmission includes a first transmission block portion and a second

10   transmission block portion;

11   attempt to decode the first transmission in a first decoding; and

12   when the first decoding is not successful, request and receive a second transmission

13   from the transmitter at a second data transmission rate different from the first data

14   transmission rate, wherein the second transmission includes the first transmission block

15   portion.

40.   A user terminal that acts as a wireless receiver to wirelessly receive a data

2   packet from a base station acting as a transmitter, the user terminal comprising:

3   an antenna;

4   a Radio Frequency unit coupled to the antenna; and

5   a digital processor coupled to the Radio Frequency unit that executes software

6   instructions causing the user terminal to:

7   receive a first transmission from the receiver that includes data bits and first parity

8   bits;

9   attempt to decode the first transmission at a first decoding rate; and

10   when the first decoding is unsuccessful, request and receive a second transmission

11   from the transmitter that includes the data bits and second parity bits, wherein the second

12   parity bits are different from the first parity bits.

1   41.   A user terminal that acts as a wireless receiver to wirelessly receive a data

2   packet from a base station acting as a transmitter, the user terminal comprising:

3   an antenna;

4   a Radio Frequency unit coupled to the antenna; and

5   a digital processor coupled to the Radio Frequency unit that executes software

6   instructions causing the user terminal to:

7   receive a first transmission from the transmitter, wherein the first transmission

8   includes a set of data bits coded at a first coding rate;

9   attempt to decode the first transmission in a first decoding;

10   when the first decoding is not successful, request and receiving a second

11   transmission from the receiver that includes the set of data bits coded at a second coding

12   rate that is less than the first coding rate; and

13   attempt to decode the second transmission in a second decoding.

1   42.   A plurality of software instructions stored on a media that, upon execution by

2   a base station, cause the base station to act as a transmitter to wirelessly transmit a data

3   packet on a variable rate channel to a user terminal acting as a receiver, the plurality of

4   software instructions comprising:

5   a set of instructions executed by the base station that cause the base station to

6   transmit a first transmission block portion and a second transmission block portion to the

7   receiver in a first transmission at a first data transmission rate; and

8   a set of instructions executed by the base station that cause the base station to, when

9   the receiver does not successfully decode the first transmission in a first decoding, transmit

10   a second transmission to the receiver at a second data transmission rate different from the

11   first data transmission rate, wherein the second transmission includes the first transmission

12   block portion.

1   43.   A plurality of software instructions stored on a media that, upon execution by

2   a base station, cause the base station to act as a transmitter to wirelessly transmit a data

3   packet to a user terminal acting as a receiver, the plurality of software instructions

4   comprising:

5   a set of instructions executed by the base station that cause the base station to

6   transmit a first transmission to the receiver that includes data bits and first parity bits; and

7   a set of instructions executed by the base station that cause the base station to, when

8   the receiver does not successfully decode the first transmission in a first decoding at a first

9   decoding rate, transmit a second transmission to the receiver that includes the data bits and

10   second parity bits, wherein the second parity bits are different from the first parity bits.

1   44.   A plurality of software instructions stored on a media that, upon execution by

2   a base station, cause the base station to act as a transmitter to wirelessly transmit a data

3   packet to a user terminal acting as a receiver, the plurality of software instructions

4   comprising:

5   a set of instructions executed by the base station that cause the base station to

6   transmit a first transmission to the receiver that includes a set of data bits coded at a first

7   coding rate; and

8   a set of instructions executed by the base station that cause the base station to, when

9   the receiver does not successfully decode the first transmission in a first decoding, transmit

10   a second transmission to the receiver that includes the set of data bits coded at a second

11   coding rate that is less than the first coding rate.

1   45.   A plurality of software instructions stored on a media that, upon execution by

2   a user terminal, cause the user terminal to act as a receiver to wirelessly receive a data

3   packet from a base station acting as a receiver, the plurality of software instructions

4   comprising:

5   a set of instructions executed by the user terminal that cause the user terminal to

6   receive a first transmission from the transmitter at a first data transmission rate, wherein the

7   first transmission includes a first transmission block portion and a second transmission

8   block portion;

9   a set of instructions executed by the user terminal that cause the user terminal to

10   attempt to decode the first transmission in a first decoding; and

11   a set of instructions executed by the user terminal that cause the user terminal to,

12   when the first decoding is not successful, request and receive a second transmission from

13   the transmitter at a second data transmission rate different from the first data transmission

14   rate, wherein the second transmission includes the first transmission block portion.

1   46.   A plurality of software instructions stored on a media that, upon execution by

2   a user terminal, cause the user terminal to act as a receiver to wirelessly receive a data

3   packet from a base station acting as a receiver, the plurality of software instructions

4   comprising:

5   a set of instructions executed by the user terminal that cause the user terminal to

6   receive a first transmission from the receiver that includes data bits and first parity bits;

7   a set of instructions executed by the user terminal that cause the user terminal to

8   attempt to decode the first transmission at a first decoding rate; and

9   a set of instructions executed by the user terminal that cause the user terminal to,

10   when the first decoding is unsuccessful, request and receive a second transmission from the

11   transmitter that includes the data bits and second parity bits, wherein the second parity bits

12   are different from the first parity bits.

1   47.   A plurality of software instructions stored on a media that, upon execution by

2   a user terminal, cause the user terminal to act as a receiver to wirelessly receive a data

3   packet from a base station acting as a receiver, the plurality of software instructions

4   comprising:

5   a set of instructions executed by the user terminal that cause the user terminal to

6   receive a first transmission from the transmitter, wherein the first transmission includes a set

7   of data bits coded at a first coding rate;

8   a set of instructions executed by the user terminal that cause the user terminal to

9   attempt to decode the first transmission in a first decoding;

10   a set of instructions executed by the user terminal that cause the user terminal to,

11   when the first decoding is not successful, request and receiving a second transmission from

12   the receiver that includes the set of data bits coded at a second coding rate that is less than

13   the first coding rate; and

14   a set of instructions executed by the user terminal that cause the user terminal to

15   attempt to decode the second transmission in a second decoding.